

87

**Notice of Allowability**

Application No.

09/617,148

Applicant(s)

MAHESHWARI ET AL.

Examiner

Grigory Gurshman

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Pre-Brief conference request filed on 9/02/2005.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 1-15 are allowed.
2. The following is an examiner's statement of reasons for allowance:

2.1 Referring to claims 1-3, 11-15, Barton discloses a method and apparatus for embedding the authentication information within digital data (see abstract). Barton teaches retrieving meta-data from data block and performing at least one of restoring step and authenticating step on data block in accordance with meta-data.

Referring to the instant claims, the limitation "receiving a block of data for storage ..." is met by data block in Fig.1. The limitation "generating at least one piece of meta-data relating to the block of data" is met by meta-data in Fig.1. The limitation "calculating a first cryptographic hash of at least a portion of the block of data" is met by calculating signature (see block 10 in Fig.1). Barton, however, does not teach calculating a cryptographic hash of the meta-data and comparing the hash values of the meta-data.

Barton, does not teach or suggest *encrypting the block of data and encrypting the meta-data to form one or more uniform blocks of encrypted data*.

2.2 Referring to the instant claims, Honsinger discloses lossless recovery of an original image containing embedded data (see abstract). Honsinger teaches that the hash value h is directed to a hash value comparator circuit 54 where it is compared to the original hash value recovered from the meta-data. If the hash values are identical, then the recovered image is declared to be authentic. If they differ, the recovered image

Art Unit: 2132

(i.e. block of data) is declared to be altered (see column 9, lines 56-60 and Fig.4).

Honsinger, however, teaches a meta data containing the hash value but not hashing the meta data. Honsinger does not teach *encrypting the block of data and encrypting the meta-data to form one or more uniform blocks of encrypted data*.

Therefore, the combination of Barton and Honsinger does not render the claims 1-3, 11-15 obvious.

2.3 Claims 4-6 are dependent from claim 1, accordingly they are allowed for the same reason as claim 1.

2.4 Referring to claims 7-10, Hagersten discloses a symmetrical multiprocessing system includes a plurality of nodes interconnected by a hierarchical bus (see abstract). Hagersten teaches a shared memory system including a plurality of memory locations, wherein the memory locations are allocated to one of a plurality of processing nodes. The memory locations are configured to be accessed by the plurality of processing nodes. The system memory locations map to a plurality of address partitions, whereby the system memory locations are addressed by a plurality of address aliases, and properties of the address partitions dictate which of the processing nodes have access to a data request (see column 2, lines 53-63 and Fig.1).

Hagersten discloses a hierarchical system of location of nodes, but he does not teach a hierarchical map for locating individual data blocks, the map including one or more location indicators for subordinate data blocks or nodes.

Hagersten does not teach that node contains cryptographic key for decrypting the data contained in the nodes.

Art Unit: 2132

2.5 Referring to the instant claims, Barton discloses a method and apparatus for embedding the authentication information within digital data (see abstract). Barton teaches retrieving meta-data from data block and encrypting the data block (see unit 16 in Fig.1 and column 3, lines 22-30) within the processor (i.e. node). Barton, however, does not teach a hierarchical map for locating individual data blocks, the map including one or more location indicators or *hash values* for subordinate data blocks or nodes. Therefore, the combination of Hagersten and Barton does not render claims 7-10 obvious.

3. Claims 1-15 are in condition for allowance in view of the reason presented herein

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Grigory Gurshman whose telephone number is (571)272-3803. The examiner can normally be reached on 9 AM-5:30 PM.

Art Unit: 2132

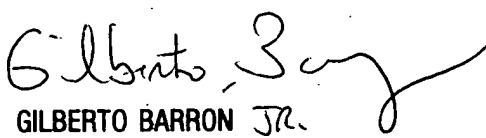
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (571)272-3799. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



GG

Grigory Gurshman  
Examiner  
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SUPERVISORY PATENT EXAMINER  
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